UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,090	07/23/2001	Philip B. Romanik		4011

7590 12/19/2006	EXAMINER
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ART UNIT	PAPER NUMBER
2157	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/19/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	09/911,090	ROMANIK ET AL.
	Examiner	Art Unit	
	Avi Gold	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>15 September 2006</u>.
2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-18</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-18</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the amendment filed on September 15, 2006.

Claims 1-18 are pending.

Response to Amendment

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 2, 4-9, and 12-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tanaka, U.S. Patent No. 6,564,256, further in view of Ohtake et al,

U.S. Patent No. 6,111,591.

Tanaka teaches the invention substantially as claimed including an image

transfer system which transfers medical image data on a DICOM (Digital Imaging and

Communication in Medicine) standard communication system (see abstract).

Regarding claims 1 and 14, Tanaka teaches a system for transmitting digital

image signals from a client device to a server device, comprising:

establishing a connection between one or more client devices and server device

(col. 5, lines 33-40, Tanaka discloses terminals and image servers transferring data);

optionally making a copy of the image to free up system resources on the client;

measuring the client resource availability of local resources and available

processor time and maintaining historical information and trends (col. 6, lines 49-56, col.

10, lines 4-15);

measuring the status and performance of the network connecting the client

device and server device, and maintaining historical information and trends (col. 6, lines

49-56, col. 10, lines 4-15, Tanaka discloses checking if the transfer of data is at high

efficiency, checking if any of the servers fail, and taking care of the failure if it exists);

reducing the size of images to conserve storage space in the queue or to reduce

transmission time between the client and server (col. 10, lines 53-65, Tanaka discloses

reducing the size of an image if it is too large);

transferring the image from the client device to the server device as a digital

signal (col. 5, lines 33-46, Tanaka discloses image data transferred between terminals

and servers);

persisting the image on the server device until it is processed or saved (col. 6,

lines 49-56, col. 10, lines 4-15).

Tanaka fails to teach the limitation further including placing a copy of the image

in a client queue if the image cannot be transmitted immediately and increasing the size

of the client queue if it becomes full.

However, Ohtake teaches an image processing system and an information

processing system for receiving data from a number of host systems via a number of

input interfaces and processing the received data (see abstract). Ohtake teaches the

use of an image buffer and enlarging the buffer size when that buffer is full (col. 1, lines

53-54, col. 2, lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Tanaka in view of Ohtake to place a copy of the image in a client

queue if the image cannot be transmitted immediately and increase the size of the client

queue if it becomes full. One would be motivated to do so because it allows an image

processing system to decrease the loads on host systems.

Regarding claims 2 and 15, Tanaka teaches a system according to claims 1 and

14, wherein the step of increasing the size of the client queue includes an upper limit to

prevent the queue from growing beyond a specified size (col. 2, lines 6-16, Ohtake

discloses an upper limit value for the buffer).

Regarding claim 4, Tanaka teaches a system according to claim 1, wherein the

step of transferring the image signal from the client to the server can comprise:

transmitting image data from one or more clients to a gateway server, such that

the clients consider the gateway server to be a server;

buffering the image data on the gateway server;

transmitting image data from the gateway server to the server, such that the

server considers the gateway server to be a client (col. 5, lines 33-55, col. 6, lines 49-

56, col. 10, lines 4-52).

Regarding claims 5 and 16, Tanaka teaches a system according to claims 1 and

14, wherein the step of reducing the size of an image comprises: .

selecting one or more reduction methods to reduce the image size from a

plurality of lossless or lossy compression methods;

reducing the current image, or any image in the queue when the queue becomes

full;

periodically reducing the size of the images in the queue, using reduction

methods when processor resources are available (col. 10, lines 53-65).

Regarding claims 6 and 17, Tanaka teaches a system according to claims 5 and

16, wherein the step of selecting one of more reduction methods comprises:

estimating the reduction in image size possible for a specific reduction method;

estimating the cost of this reduction where the cost includes the resources

required for reduction as well as the time to reduce the image;

performing the reduction if the cost is allowable and the reduction is considered

meaningful;

evaluating other reduction methods if the desired amount of reduction has not

been achieved (col. 10, lines 53-65).

Regarding claims 7 and 18, Tanaka teaches a system according to claims 6 and

17, wherein the step of determining if the cost is allowable comprises:

checking the current system resources to see if sufficient resources and time are

available to reduce the image;

checking historical system resources and trends to estimate future resource

availability;

checking the current network parameters such as available bandwidth and

throughput;

checking historical network conditions and trends to estimate future network

conditions (col. 6, lines 49-56, col. 10, lines 4-15).

Regarding claim 8, Tanaka teaches a system according to claim 1, wherein the

step of transferring the image signal from the client device to the server device

comprises:

storing the received image in a server queue or on a networked file system;

increasing the size of the server queue if it becomes full (col. 10, lines 18-39);

reducing the size of images to conserve storage space in the queue or to reduce

storage requirements in the image database (col. 10, lines 53-65).

Regarding claim 9, Tanaka teaches a system according to claim 8, wherein the

step of increasing the size of the server queue includes an upper limit to prevent the

queue from growing beyond a specified size (col. 10, lines 18-52).

Regarding claim 12, Tanaka teaches a system for transmitting digital image signals from a client device to a server device, comprising:

establishing a connection between one or more client devices and server device (col. 5, lines 33-40);

optionally making a copy of the image to free up system resources on the client (col. 5, lines 47-55);

dividing the available network bandwidth between the client and server into one or more pieces and assigning certain images to be transmitted using these reserved channels (col. 5, lines 47-55, Tanaka discloses using different relay servers and piecing the image);

measuring the client resource availability of local processor resources and available processor time, and maintaining historical information and trends;

measuring the status and performance of the network connecting the client device and server device, and maintaining historical information and trends (col. 6, lines 49-56, col. 10, lines 4-15);

reducing the size of images to conserve storage space in the queue or reduce transmission time between the client and server (col. 10, lines 53-65);

transferring the image from the client device to the server device (col. 5, lines 33-46);

persisting the image on the server device until it is processed or saved (col. 6, lines 49-56, col. 10, lines 4-15).

Tanaka fails to teach the limitation further including placing a copy of the image in a client queue if the image cannot be transmitted immediately and increasing the size of the client queue if it becomes full.

However, Ohtake teaches the use of an image buffer and enlarging the buffer size when that buffer is full (col. 1, lines 53-54, col. 2, lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka in view of Ohtake to place a copy of the image in a client queue if the image cannot be transmitted immediately and increase the size of the client queue if it becomes full. One would be motivated to do so because it allows an image processing system to decrease the loads on host systems.

Regarding claim 13, Tanaka teaches a system according to claim 12, wherein the step of reserving network bandwidth comprising:

specifying the mapping of image type to a reserved piece of network bandwidth;

using any remaining, unreserved network bandwidth for images that do not have any defined mapping;

allocating a separate queue for each piece of network bandwidth or allocating elements from a single queue;

identifying the type of image and routing this image to the appropriate piece of network bandwidth or queue (col. 9, lines 1-37, Tanaka discloses using different servers for different types of image data).

3.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka

and Ohtake further in view of Glass et al., U.S. Patent No. 6,332,193.

Tanaka teaches the invention substantially as claimed including an image

transfer system which transfers medical image data on a DICOM (Digital Imaging and

Communication in Medicine) standard communication system (see abstract). Ohtake

teaches the invention substantially as claimed including an image processing system

and an information processing system for receiving data from a number of host systems

via a number of input interfaces and processing the received data (see abstract).

As to claim 3, Tanaka and Ohtake teach the method of claim 1.

Tanaka and Ohtake fail to teach the limitation further including the step of

transferring the signal from the client to the server can include encrypting the

information on the client prior to transmission and decrypting the data once it is received

by the server.

However, Glass teaches the transmission of unprocessed biometric data from a

camera or other sensor to a server at a remote location over a network in a secure

manner (see abstract). Glass teaches the use of encrypting data on the client and

decrypting the data on the server (col. 10, lines 59-66).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Tanaka and Ohtake in view of Glass to use encryption and

decryption on the client and server. One would be motivated to do so because it allows

for the secure transfer of data.

4.   Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Tanaka and Ohtake further in view of Lopresti, U.S. Patent No. 6,298,173.

Tanaka teaches the invention substantially as claimed including an image

transfer system which transfers medical image data on a DICOM (Digital Imaging and

Communication in Medicine) standard communication system (see abstract). Ohtake

teaches the invention substantially as claimed including an image processing system

and an information processing system for receiving data from a number of host systems

via a number of input interfaces and processing the received data (see abstract).

As to claim 10, Tanaka and Ohtake teach the method of claim 8.

Tanaka and Ohtake fail to teach the limitation further including selecting one or

more reduction methods to reduce the image size from a plurality of lossless or lossy

compression methods and using lossless compression methods when processor

resources are available.

However, Lopresti teaches a method of managing storage in a document image

database using document analysis to partition documents into logical regions and

document reduction means for reducing storage size of the regions according to various

storage preference rules (see abstract). Lopresti teaches reduction of image size from

lossless and lossy compression methods and the use of lossless compression methods

(col. 6, line 57 – col. 7, line 45).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Tanaka and Ohtake in view of Lopresti to select one or more

reduction methods to reduce the image size from a plurality of lossless or lossy

compression methods and to use lossless compression methods. One would be

motivated to do so because it allows for good data compression performance.

Regarding claim 11, Tanaka and Ohtake teach a system according to claim 10,

wherein the step of selecting one of more reduction methods comprises:

estimating the reduction in image size possible for a specific reduction method;

estimating the cost of this reduction where the cost includes the resources

required for reduction as well as the time to reduce the image;

performing the reduction if the cost is allowable and the reduction is considered

meaningful;

evaluating other reduction methods if the desired amount of reduction has not

been achieved (col. 10, lines 53-65).

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 1-18 rejected as failing to define the invention in the manner required by

35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or

operational language. The structure which goes to make up the device must be clearly

and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

7.   Claims 1-18 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The claimed limitations do not work with the preamble. Each limitation should start with "means for".

Response to Arguments

8.   Applicant's arguments filed September 15, 2006 have been fully considered but they are not persuasive.

9.   In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the knowledge is generally available to one of ordinary skill in the art.

10.   Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

The Examiner suggests that the Applicant thoroughly reviews the Ohtake et al.

Patent (U.S. Pat. No. 6,111,591) before submitting a response/amendment.

U.S. Pat. No. 5,179,651 to Taaffe et al.

U.S. Pat. No. 5,845,018 to Breish

U.S. Pat. No. 6,388,687 to Brackett et al.

U.S. Pat. No. 6,564,225 to Brogliatti et al.

U.S. Pat. No. 5,706,457 to Dwyer et al.

U.S. Pat. No. 5,359,512 to Nishihara

U.S. Pat. No. 5,187,750 to Behera

U.S. Pat. No. 6,519,632 to Brackett et al.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Avi Gold whose telephone number is 571-272-4002.

The examiner can normally be reached on M-F 8:00-5:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Avi Gold

Patent Examiner

Art Unit 2157

AMG

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